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BANGALORE UNIVERSITY
DEPARTMENT OF CIVIL ENGINEERING

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JNANA BHARATHI
BANGALORE - 560 056

BUB/CTE/2015-16/

Date: 11-11-2015

1. TESTING OF FINE AGGREGATES :

Sub: Testing of Fine Aggregates.
{Project*: Road Development and Concrete Road works at Kuvempunagar 2nd Stage Main Road in Ward No.11}

Ref.: Letter No. Testing/BUB/2015-16, dated 07-11-2015

Sample supplied to lab by: Sri.N.Keerthi, Contractor, Bangalore.

Report required for: Assistant Executive Engineer, Vidyaranyapura Sub-Division. BBMP, Bangalore.

TABLE - 1.1 : SIEVE ANALYSIS :

IS Sieve Size, mm	Percentage Passing	Specification as Per IS: 383-1970(Reaffirmed 2007) Percentage Passing			Remarks
		Zone-I	Zone-II	Zone -III	
04.75	98.00	90-100	90-100	90-100	The Sample Conforms to Grading **Zone-II**
02.36	85.00	60-95	75-100	85-100	
01.18	74.20	30-70	55-90	75-100	
600. mic	43.00	15-34	35-59	60-79	
300.mic	19.00	5-20	8-30	12-40	
150.mic	2.90	0-10	0-10	0-10	

TABLE 1.2 ;

Sl No	Test Conducted	Sample	Results	Requirements as Per IS. Specification IS :383-1970 (Reaffirmed 2007)
1	Silt Content	001	1.45%	Not more than 8%
2.	Specific Gravity	----	2.59	-------

* As furnished by Client.
The Results relate only to the items tested.

AE-II

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11/11/2015
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BUB/CTE/2015-16/ **Date: 11-11-2015**

1. TESTING OF COARSE AGGREGATES (40 mm):

Sub: Testing of Coarse Aggregates.
{Project*: Road Development and Concrete Road works at Kuvempunagar 2nd Stage Main Road in Ward No.11}
Ref.: Letter No. Testing/BUB/2015-16, dated 07-11-2015
Sample supplied to lab by: Sri.N.Keerthi, Contractor, Bangalore.
Report required for: Assistant Executive Engineer, Vidyaranyapura Sub-Division. BBMP, Bangalore.

Table - 1.1 : SIEVE ANALYSIS :

IS Sieve Size, mm	Percentage passing	Requirements as per IS 383-1970 (Reaffirmed on 2007) % Passing	
	40 mm Sample	*Single size*	*Graded*
40mm	98.00	85-100	95 – 100
20mm	64.00	0 -20	30- 70
10mm	22.00	0 -5	10- 35
4.75mm	Nil	------	0 - 5

TABLE 1 2 :

SL No	Test conducted	Sample No	Results	Requirements as per IS:383-1970 & Test Conforms to IS 2386(Part I to IV) – 1963 (Reaffirmed on 2007)
1.	Flakiness Index	As above	15.60 %	Not to exceed 25 %
2.	Crushing value	----,,----	26.30%	Not to exceed 45 % for concrete other than for wearing surfaces and 30% for concrete for wearing surfaces

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BUB/CTE/2015-16/

Date: 16-11-2015

1. TEST REPORT ON CEMENT:

Sub: Testing of 53 Grade Cement Sample (IS 12269-1987).
{Project*: Road Development and Concrete Road works at Kuvempunagar 2nd Stage Main Road in Ward No.11}

Ref.: Letter No. Testing/BUB/2015-16, dated 07-11-2015

Sample supplied to lab by: Sri.N.Keerthi, Contractor,
Bangalore.

Report required for: Assistant Executive Engineer,
Vidyaranyapura Sub-Division.
BBMP, Bangalore.

PHYSICAL TESTS ON CEMENT

Brand* : Birla Grade * : 53
Type * : OPC
Date : 08-11-2015 to 15-11-2015

SL No	Name of Test	Results	Requirements as per
		Cement Sample	IS 12269-1987
1	Initial setting time	**145 min**	Shall not be less than 30 min
2	Final setting time	**250min**	Shall not be more than 600 min
3	Fineness (by dry sieving on IS 90 micron sieve)	**2.60%**	Not to exceed 10.0%
4	Soundness test(by Le-Chatelier's method)	**1.30 mm**	Shall not be more than 10 mm
5	Compressive strength c) 3 days (average of three results) d) 7 days (average of three results)	**28.70 N/ Sq mm** **41.30 N/Sq mm**	Shall not be less than 27 N/Sqmm Shall not be less than 37N/Sqmm

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BUB/CTE/2015-16/ **Date: 11-11-2015**

1. TEST REPORT ON REINFORCEMENT STEEL :

Sub: Testing of Reinforcement Steel of diameter 10mm.
{Project*: Road Development and Concrete Road works at Kuvempunagar 2nd Stage Main Road in Ward No.11}

Ref.: Letter No. Testing/BUB/2015-16, dated 07-11-2015

Sample supplied to lab by: Sri.N.Keerthi, Contractor, Bangalore.

Report required for: Assistant Executive Engineer, Vidyaranyapura Sub-Division. BBMP, Bangalore.

TABLE – 1

SL No	Details	For 10mm	
		Test Results	Min Req as per IS 1786-2008
01	Observed diameter of bar	**10.0mm**	10.0mm
02	Observed Wt/m Length **Kg/m**	**0.621**	0.567
03	Proof stress/Yield stress, fy , **N/mm^2**	**556.0**	500.0
04	Bend/ Re bend Test	**Ok**	---
05	Percentage of Elongation, %	**19.60**	12.00
06	Ultimate Tensile Strength **N/mm^2**	**632.0**	545.0

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BUB/CTE/2015-16/

DATE: 19-12-2015

1. TEST REPORT ON CEMENT CONCRETE CUBES:

Sub: Testing of Concrete Cubes (28 days Compressive Strength)
{Project*: Road Development and Concrete Road works at Kuvempunagar 2nd Stage Main Road in Ward No.11}

Ref.: Letter No. Testing/BUB/2015-16, dated 18-12-2015

Sample supplied to lab by: Sri.N.Keerthi, Contractor, Bangalore.

Report required for: Assistant Executive Engineer, Vidyaranyapura Sub-Division. BBMP, Bangalore.

RESULTS OF COMPRESSIVE STRENGTH ON CEMENT CONCRETE

CUBE SPECIMENS

Dimensions of Specimen : 150 X 150 X 150mm

Grade of Concrete* : M_{20}

TABLE 1.1 :

Sl No	Location/ Identification *	Date of Casting*	Date of Testing	Age in Days	C/S Area in Mm^2	Maximum Load in K.N	Compressive Strength (N/mm^2)	Avg. Value
1	001	20-11-15	18-12-15	28	22500	540	24.00	23.92
	002	"	"	"	"	525	23.33	
	003	"	"	"	"	550	24.44	

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BUB/CTE/2015-16/

DATE: 21-12-2015

1. TEST REPORT ON CEMENT CONCRETE CUBES:

Sub: Testing of Concrete Cubes (28 days Compressive Strength)
{Project*: Road Development and Concrete Road works at Kuvempunagar 2nd Stage Main Road in Ward No.11}

Ref.: Letter No. Testing/BUB/2015-16, dated 19-12-2015

Sample supplied to lab by: Sri.N.Keerthi, Contractor, Bangalore.

Report required for: Assistant Executive Engineer, Vidyaranyapura Sub-Division. BBMP, Bangalore.

RESULTS OF COMPRESSIVE STRENGTH ON CEMENT CONCRETE

CUBE SPECIMENS

Dimensions of Specimen : 150 X 150 X 150mm

Grade of Concrete* : M_{20}

TABLE 1.1 :

Sl No	Location/ Identification *	Date of Casting*	Date of Testing	Age in Days	C/S Area in Mm^2	Maximum Load in K.N	Compressive Strength (N/mm^2)	Avg. Value
1	001	21-11-15	19-12-15	28	22500	540	24.00	**23.77**
	002	"	"	"	"	530	23.55	
	003	"	"	"	"	535	23.77	

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BUB/CTE/2015-16/

DATE: 22-12-2015

1. TEST REPORT ON CEMENT CONCRETE CUBES:

Sub: Testing of Concrete Cubes (28 days Compressive Strength)
{Project*: Road Development and Concrete Road works at Kuvempunagar 2nd Stage Main Road in Ward No.11}

Ref.: Letter No. Testing/BUB/2015-16, dated 21-12-2015

Sample supplied to lab by: Sri.N.Keerthi, Contractor, Bangalore.

Report required for: Assistant Executive Engineer, Vidyaranyapura Sub-Division. BBMP, Bangalore.

RESULTS OF COMPRESSIVE STRENGTH ON CEMENT CONCRETE

CUBE SPECIMENS

Dimensions of Specimen : 150 X 150 X 150mm

Grade of Concrete* : M_{20}

TABLE 1.1 :

Sl No	Location/ Identification *	Date of Casting*	Date of Testing	Age in Days	C/S Area in Mm^2	Maximum Load in K.N	Compressive Strength (N/mm^2)	Avg. Value
1	001	23-11-15	21-12-15	28	22500	505	22.44	24.44
	002	"	"	"	"	515	22.88	
	003	"	"	"	"	495	22.00	

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